

### **Abstract of the Disclosure**

The present invention provides the art with a shock absorber which is capable of compensating for the differing thermal expansion between two materials. The shock absorber in its various embodiments includes a free floating pressure tube that is able

5 to expand or contract axially without breaking a seal, a hybrid piston rod with a shaft of one material that compensates for differing thermal expansions and a cap of another material that absorbs axial forces, a unique rod guide assembly with a biasing member that compensates for differing thermal expansions, and a unique cylinder end assembly with a biasing member made from springs, a rubber block, or pressurized gas.